

Assignment 2

Algorithms

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Problem 1

Stack complexity: $O(1)$ for the iterative solution and $O(n)$ for the recursive solution.

Heap complexity: $O(n)$ for storing the nodes.

Space complexity: $O(1)$

Time complexity: $O(n)$

Problem 2

Stack complexity: $O(1)$

Heap complexity: $O(n)$ for storing the array.

Space complexity: $O(n)$

Time complexity: $O(n \cdot \lg(n))$

Problem 3

Stack complexity: $O(1)$

Heap complexity: $O(n)$ for storing the array.

Space complexity: $O(n)$

Time complexity: $O(n \cdot \lg(n))$

Problem 4

Stack complexity: $O(1)$

Heap complexity: $O(n)$ for storing the array.

Space complexity: $O(n)$

Time complexity: $O(k)$